

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,688

Atty. Docket No. Q67203
PATENT APPLICATION

REMARKS

Claims 1 - 38 are presently pending.

I. 35 U.S.C. § 102 Rejection

Claims 1 – 5, 9 – 13, 17 – 28 and 32 – 38 are rejected under 35 U.S.C. § 102 as allegedly anticipated by U.S.P. No. 5,973,661 to Kobayashi. For the following reasons, this rejection is respectfully traversed.

A. Claim 1

Applicant's independent claim 1 recites (among other things) "... supplying a source driver circuit with said branched plural-systems image data in synchronizing with at least a clock signal having a clock frequency which is a quarter of said original data rate[.]" The Examiner compares "... wherein the timing control circuit 52 distributes clock signals Sh1 to Sh6 to sampling holders SH1 to SH6 respectively based on clock signal CLK and horizontal scanning signal SYNC (figure 3 at CLK, Sh1-Sh6, column 5, lines 38 – 65)" to the previous recital of Applicant's claim 1 (*see* the instant Office Action, paragraph bridging pages 2 and 3). This comparison is inapposite, as explained below.

Kobayashi's original video input is shown at the top of Fig. 3 as signal "V" and is comprised into portions e(1) through e(n). Kobayashi's original data rate is thus reflected by the amount of image signal contained in an individual unit of the V signal in a particular unit of time. Therefore, Kobayashi's original data rate may be measured by the amount of data contained in the e(1) portion of the V signal in one complete cycle of the CLK (clock signal), as such is depicted in the top section of Fig. 3.

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Kobayashi's e(1) portion of the V signal, however, is not synchronized "with at least a clock signal having a clock frequency which is a quarter of the original data rate[,]" as claimed by Applicant's claim 1. While the Examiner compares Kobayashi's clock holder signals Sh1 to Sh6 and sampling holders SH1 to SH6, there fails to be any synchronization of these video signals to a quarter rate of the original data rate. For instance, consider that "[t]he rising edge of . . . clock signals [Sh1 to Sh6] are synchronized with [the] starting of each pixel image signal . . . Then, sampling holder SH1 holds pixel image signal c(1) during term t_{11} . . ."

Because Kobayashi holds the e(1) signal for term t_{11} , the original data rate is therefore shrunk to $1/6^{\text{th}}$ of the original data rate. That is, the data held in Kobayashi's e(1) signal is stretched over time period t_{11} . Time period t_{11} includes the time period from the beginning of e(1) to the end of e(6). While the period of e(1) covers one complete cycle of the CLK signal, the time period t_{11} covers six (6) complete cycles of the CLK signal. Therefore, because the data in e(1) is stretched across six (6) complete cycles, Kobayashi therefore teaches a data rate of $1/6^{\text{th}}$ of the original data rate, and absolutely fails to teach or suggest a data rate of $1/4$ of the original data rate, as is claimed by Applicant's claim 1. Claim 1 is therefore patentable, as are claims 2 – 8 at least by virtue of their dependency.

B. Claims 9 and 24

Applicant's claims 9 and 24 recite (among other things) ". . . converting said image data into gray scale voltage signals. . ." At least these features are absent in the Kobayashi reference.

The Examiner compares Kobayashi's "sampling switches 112-1 to 112-6 [and how the switches] pick second image signal train V(1) to V(6) based on timing signals which. . . [are] represented by sample holder signals Sh1 to Sh6 from shift register 111 such that the sampling

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switches 112-1 to 112-6 supply image signals V'(1) to V'(6) for driving each pixel units p-1 to -6 in display area 102 wherein the image signal V'(1) for driving comprises pixel image signal e'(1), e'(7), e'(13) and so on shown in Fig. 3 (see column 7, lines 64 through column 8, lines 13; see also figure 3A, 3B)[,]" to the previously noted features of Applicant's claims 9 and 24. This comparison is inapposite, as explained below.

The above citation to certain of Kobayashi's features fails to teach or suggest "... converting said image signal into gray scale voltage signals. . ." Notably, to change a received video signal to a series of gray scaled voltage signals, a device would require a Digital-to-Analog converter, as is shown in Applicant's Fig. 12 as element 35A. As discussed in Applicant's specification at page 44, approximately lines 16 - 23, the D/A converter 35A "... performs the digital-to-analog conversion of the level-shifted digital data into the analog image signals as the gray scale voltage." Notably, Kobayashi fails to have a D/A converter, and therefore cannot convert any image signal into gray scale voltage signals.

Accordingly, because Kobayashi fails to teach or suggest the above-noted conversion from digital data to analog gray scale voltage signals, the reference is deficient. Claims 9 and 24 are therefore patentable, as are claims 10 - 23 and 25 - 38 at least by virtue of their respective dependencies.

II. 35 U.S.C. § 103 Rejection

Claims 6 - 8, 14 - 16 and 29 - 31 are rejected under 35 U.S.C. § 103 as allegedly being obvious in view of the Kobayashi reference in combination with U.S.P. No. 6,097,234 to Yeo. For the following reasons, this rejection is respectfully traversed.

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The Yeo reference fails to cure the Kobayashi reference's deficiencies (these deficiencies being explained in Part I of this Amendment). In view of the previous, the Examiner is respectfully requested to reconsider and withdraw this rejection.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


Jason C. Beckstead
Registration No. 48,232

SUGHRUE MION, PLLC
Telephone: (650) 625-8100
Facsimile: (650) 625-8110

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CUSTOMER NUMBER

Date: December 6, 2004

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this AMENDMENT UNDER 37 C.F.R. § 1.111 is being facsimile transmitted to the U.S. Patent and Trademark Office this 6th day of December, 2004.


Thea K. Wagner